54. (CURRENTLY AMENDED) A method of processing free-format data stored in a computing system, comprising the steps of:

examining elements of the free-format data to determine attributes of the free-format data, by examining [[the]] a content of the elements and [[the]] contextual relationships of the elements to each other, to determine semantic and syntactic attribute information (attributes) about the free-format data[[,]];

producing additional data relating to [[this]] the attribute information, in [[the]] a form of a text object, the text object comprising;

an attribute-type identifier which identifies an attribute-type of the elements of the free-format data,

a text node tree which includes pointer means enabling access to the elements of the text object and the free-format data[[,]]; and

the additional data being accessible by a query processing means to at least one of provide answers to queries relating to the semantic and syntactic attribute information about the free-format data and access the free-format data to manipulate the free-format data.

55. (PREVIOUSLY PRESENTED) The method according to claim 54, wherein the free-format data is stored as a record in a free-format field of a database.

56. (CURRENTLY AMENDED) The method according to claim 54, wherein the free-format data remains stored in the computing system as it was originally stored, whereby it the free-format data may be accessed by other applications.

57. (CANCELED)

58. (CURRENTLY AMENDED) The method according to claim 54, wherein the text object includes a value indicating [[the]] a character length of an element of the free-format data.

59. (CURRENTLY AMENDED) The method according to claim [[57]] 54, wherein the text object includes a value indicating whether an element is one of a low level in a syntactic hierarchy or higher level whereby the value may be used for matching purposes when matching the free-format data with other free-format data processed in accordance with the method.

60. (CURRENTLY AMENDED) The method according to claim 54, wherein the text object including a match weighting value for [[an]] a first element of the free-format

data, which can be used to determine the significance of the first element when matching with other free format data.

61. (CURRENTLY AMENDED) The method according to claim 54, wherein the text object comprises a plurality of component nodes arranged according to [[the]] a semantic structure of the free-format data, the component nodes being arranged in a hierarchy corresponding to the semantic structure of the free-format data and each of the component nodes including additional data relating to [[the]] a corresponding element of the free-format data.

62. (CURRENTLY AMENDED) The method according to claim 54, comprising [[the]] a further step of generating matching values for comparing an element of the free-format data with an element of other free-format data processed in accordance with the present method.

63. (CURRENTLY AMENDED) The method according to claim 62, wherein [[the]] a matching value is a phonetic value for phonetically comparing elements of the free-format data.

64. (PREVIOUSLY PRESENTED) The method according to claim 54, wherein the text object includes implied data relating to information implied from the free-format data.

65-66. (CANCELED)

67. (CURRENTLY AMENDED) A method of processing free-format data record stored in a computing system, comprising the steps of;

examining elements of the free-format data record to determine attributes of the free-format data record, by examining [[the]] a content of the elements and [[the]] contextual relationships of the elements to each other, to determine semantic and syntactic attribute information (attributes) about the free-format data[[,]] record;

producing a text object associated with each of the free-format data records, the text object comprising:

a text node tree which includes pointer means enabling access to the elements of the free-format data record, and

the additional data being accessible by a query processing means to at least one of provide answers to queries relating to the semantic and syntactic attribute information about the free-format data record and access the free-format data record to manipulate the free-format data record; and

producing a text object index including,

    attribute-type identifiers for <u>the</u> elements of each <u>of the free-format</u> data record and pointers to each <u>of the free-format</u> data record, <u>and</u>

    whereby the <u>text object</u> index may be queried by queries relating to <u>the</u> semantic and syntactic <u>attribute</u> information about the <u>free-format</u> data <u>record</u> and the <u>free-format</u> data <u>record</u> may be accessed via the index.

68. (PREVIOUSLY PRESENTED) The method according to claim 67, wherein each entry in the text object index includes a representative value key, which gives a value representative of the element associated with the attribute-type identifier.

69. (CURRENTLY AMENDED) The method according to claim 54, comprising [[the]] <u>a</u> further step of carrying out a domain construction process to construct a domain object being arranged to carry out the examination process by parsing the free-format data in accordance with grammar rules.

70. (CURRENTLY AMENDED) The method according to claim 69, wherein [[the]] <u>a</u> domain definition data file[[s]] include<u>s</u> character definition data, regular expression definition data and grammar data.

71. (PREVIOUSLY PRESENTED) The method according to claim 54, wherein the free-format data is postal address data.

72. (CURRENTLY AMENDED) The method according to claim 54, the query processing means can carry out normal database operations on the data via the additional <u>free-format</u> data.

73. (CURRENTLY AMENDED) A processing system for processing free-format data stored in a computing system, the apparatus including<u>:</u>

    means for examining elements of the <u>free-format</u> data to determine attributes of the <u>free-format</u> data, by examining [[the]] <u>a</u> content of the elements and [[the]] contextual relationships of <u>the</u> elements to each other, to determine semantic and syntactic <u>attribute</u> information (attributes) about the <u>free-format</u> data[[,]]<u>;</u>

    means for producing additional data relating to [[this]] <u>the attribute</u> information, in [[the]] <u>a</u> form of a text object<u>, the text object</u> comprising<u>:</u>

    <u>an attribute-type identifier which identifies an attribute-type of an element of the free-format data,</u>

    a text node tree which includes pointer means enabling access to the elements of the text object and the free-format data, and

a query processing means [[which is]] arranged to access at least one or more of the additional data to provide answers to queries relating to the semantic and syntactic attribute information about the free-format data and to access the free-format data to manipulate the free-format data.

74.   (PREVIOUSLY PRESENTED)   The processing system according to claim 73, wherein the free-format data is stored as a record in a free-format field of a database.

75. (CURRENTLY AMENDED) The processing system according to claim 73, wherein the examining means does not affect [[the]] storage of the free-format data.

76. (CANCELED)

77. (CURRENTLY AMENDED) The processing system according to claim 73, wherein the text object includes a value indicating [[the]] a character length of an element of the free-format data.

78. (CURRENTLY AMENDED) The processing system according to claim [[76]] 73, wherein the text object includes a value, indicating whether an attribute-type of an element is one of low level in a syntactic hierarchy or high level whereby the value may be used for matching purposes when matching with other free-format data processed in accordance with [[this]] processing system.

79. (CURRENTLY AMENDED) The processing system according to claim 73, wherein the text object includes a match weighting value for an element of the free-format data, which can be used to determine [[the]] a significance of the element when matching with other free-format data.

80. (CURRENTLY AMENDED) The processing system according to claim 73, wherein the text object comprises a plurality of component nodes arranged according to [[the]] a semantic structure of the free-format data, the component nodes being arranged in a hierarchy corresponding to the semantic structure of the free-format data, and each of the component nodes including additional data relating to [[the]] a corresponding element of free-format data.

81. (CURRENTLY AMENDED) The processing system according to claim 73, wherein the means for producing additional data in the form of a text object which includes a means for generating matching values for comparing an element of the free-format data with an element of other free-format data processed by the processing system.

82. (CURRENTLY AMENDED) The processing system according to claim 81, wherein the matching value is a phonetic value for phonetically comparing elements of the free-format data.

83. (PREVIOUSLY PRESENTED) The processing system according to claim 73, wherein the text object includes implied data relating to information implied from the free-format data.

84. (CANCELED)

85. (CURRENTLY AMENDED) A processing system for processing free-format data records stored in a computing system, the apparatus including;

means for examining elements of the free-format data record to determine attributes of the free-format data record, by examining [[the]] content of the elements and [[the]] contextual relationships of the elements to each other, to determine semantic and syntactic attribute information (attributes) about the free-format data record[[,]];

means for producing additional data relating to [[this]] the attribute information, in [[the]] a form of a text object, the text object comprising:

a text node tree which includes a pointer means enabling access to the elements of the free-format data record, and a query processing means which is arranged to access at least one or more of the additional data to provide answers to queries relating to the semantic and syntactic attribute information about the free-format data record and to access the free-format data record to manipulate the free-format data record,

wherein the system is arranged to process a plurality of free-format data records and produce a text object associated with each free-format data record,

wherein the means for producing additional data is arranged to produce a text object index including attribute-type identifiers for elements of each of the free-format data records and pointers to each of the free-format data records and wherein the query processing means is arranged to access at least one or more of the text object index to provide answers to queries relating to the semantic and syntactic attribute information about the free-format data record and to access the free-format data record to manipulate the free-format data record.

86. (PREVIOUSLY PRESENTED) The processing system according to claim 85, wherein the text object index includes representative value keys for entries, which give a value representative of a feature of the element associated with the

attribute-type identifier for the entry for facilitating matching with other free-format data processed in accordance with this system.

87. (PREVIOUSLY PRESENTED) The processing system according to claim 73, further comprising a domain object, the domain object being arranged to carry out the examination process by parsing the free-format data in accordance with grammar rules.

88. (PREVIOUSLY PRESENTED) The processing system according to claim 87, wherein the domain object is produced by a domain construction process from domain definition data files.

89. (PREVIOUSLY PRESENTED) The processing system according to claim 88, further comprising a domain constructor for carrying out the domain construction process.

90. (CURRENTLY AMENDED) The processing system according to claim 88, wherein the domain definition data files include <u>one or more of</u> character definition data, regular expression definition data and grammar data.

91. (PREVIOUSLY PRESENTED) The processing system according to claim 73, wherein the free-format data is postal address data.

92. (CURRENTLY AMENDED) The processing system according to claim 73, wherein the query processing means is arranged to carry out normal database operations on the <u>free-format</u> data via the additional data.

93. (CURRENTLY AMENDED) A method of enabling access to free-format data stored in a computing system, including a plurality of free-format data records, comprising the steps of;

storing additional data relating to semantic and syntactic <u>attribute</u> information (~~attributes~~) about the <u>free-format</u> data for each <u>free-format</u> data record, the additional data being in the form of a text object associated with each of the <u>free-format</u> data records, the text object comprising<u>:</u>

a text node tree including pointer means enabling access to elements of the text object and each<u> of the</u> free-format data record<u>s</u>, <u>and</u>

the additional data being accessible by a query processing means to at least one of provide answers to queries relating to the semantic and syntactic <u>attribute</u> information about the <u>free-format</u> data and to access the <u>free-format</u> data to manipulate the <u>free-format</u> data.

94. (CURRENTLY AMENDED) A processing system for enabling access to free-format data stored in a computing system, including a plurality of free-format data records, the processing system comprising[[;]]:

additional data relating to semantic and syntactic attribute information (attributes) about the free-format data for each of the free-format data records, stored and accessible by the processing system, the additional data being in [[the]] a form of a text object, the text object comprising[[;]]:

a text node tree associated with each of the free-format data records, the text node tree including pointer means enabling access to elements of the text object and each of the free-format data records[[,]]; and

a query processing means arranged to at least one of access the additional data to provide answers to queries relating to the semantic and syntactic attribute information about the free-format data and access the free-format data to manipulate the free-format data.

95-102. (CANCELED)

103. (CURRENTLY AMENDED) The computer readable memory storing instructions for controlling a computer to process free-format data stored in a computing system, according to the method of claim 54. The processing system according to claim 73 further comprising computer readable memory storing instructions for controlling a computer to process the free-format data stored in the computing system.

104-106. (CANCELED)

107. (CURRENTLY AMENDED) A method of processing free-format data stored in a computing system, comprising the steps of

examining elements of the free-format data to determine attributes of the free-format data, by examining [[the]] content of the elements and [[the]] contextual relationships of the elements to each other, to determine semantic and syntactic attribute information (attributes) about the free-format data;

producing additional data relating to the semantic and syntactic attribute information, in [[the]] a form of a text object which includes pointer means enabling access to the elements of the free-format data[[,]]; and

the additional data being accessible by a query processing means to at least one of provide answers to queries relating to the semantic and syntactic attribute information about the free-format data and to access the free-format data to manipulate

the free-format data, wherein a plurality of free-format data records are processed and a further text object associated with each of the free-format data records is produced; and

producing a text object index including attribute type identifiers for elements of each of the free-format data records and pointers to each of the free-format data record, whereby the text object index may be queried by queries relating to semantic and syntactic attribute information about the free-format data and the free-format data may be accessed via the text object index.

108.   (CURRENTLY AMENDED)   A method of processing free-format data stored in a computing system, comprising the steps of

examining elements of the free-format data to determine attributes of the free-format data, by examining [[the]] content of the elements and [[the]] contextual relationships of the elements to each other, to determine semantic and syntactic attribute information (attributes) about the free-format data;

producing additional data relating to the semantic and syntactic attribute information, in [[the]] a form of a text object which includes pointer means enabling access to the elements of the free-format data[[,]]; and

the additional data being accessible by a query processing means to at least one of provide answers to queries relating to the semantic and syntactic attribute information about the free-format data and to access the free-format data to manipulate the free-format data, wherein a plurality of free-format data records are processed and a text object associated with each of the free-format data records is produced; and

producing a text object index including attribute type identifiers for the elements of each data record and pointers to each of the free-format data records, whereby the text object index may be queried by queries relating to semantic and syntactic attribute information about the free-format data and the free-format data may be accessed via the text object index, wherein each entry in the text object index includes a representative value key, which gives a value representative of the element associated with the attribute-type identifier.

109.   (CURRENTLY AMENDED)   A processing system for processing free-format data stored in a computing system, the apparatus including;

means for examining elements of the free-format data to determine attributes of the free-format data, by examining [[the]] content of the elements and

[[the]] contextual relationships of the elements to each other, to determine semantic and syntactic attribute information (attributes) about the data[[,]];

means for producing additional data relating to [[this]] attribute information, in [[the]] a form of a text object which includes pointer means enabling access to the elements of the free-format data, the means for producing additional data is arranged to produce a text object index including attribute-type identifiers for elements of each data record and pointers to each of the data records and

a query processing means which is arranged to access the additional data and the text object index to one or more of provide answers to queries relating to the semantic and syntactic attribute information about the free-format data and to access the free-format data to manipulate the free-format data,

the system is arranged to process a plurality of free-format data records and produce a text object associated with each of the free-format data records, the means for producing additional data is arranged to produce a text object index including attribute-type identifiers for elements of each data record and pointers to each data record and wherein the query processing means is arranged to one or more access the text object index to provide answers to queries relating to the semantic and syntactic information about the data and to access the data to manipulate the data.

110.   (CURRENTLY AMENDED) A processing system for processing free-format data stored in a computing system, the apparatus including:

means for examining elements of the free-format data to determine attributes of the free-format data, by examining [[the]] content of the elements and [[the]] contextual relationships of the elements to each other, to determine semantic and syntactic attribute information (attributes) about the free-format data,

means for producing additional data relating to [[this]] attribute information, in [[the]] a form of a text object which includes attribute-type identifiers for elements of each of the data records and pointer means enabling access to the elements of the free-format data[[,]]; and

a query processing means which is arranged to one or more of access the additional data to provide answers to queries relating to the semantic and syntactic attribute information about the free-format data and to access the free-format data to manipulate the free-format data,

the system is arranged to process a plurality of free-format data records and produce a text object associated with each of the free-format data records; ~~the means for producing additional data is arranged to produce a text object index including attribute-type identifiers for elements of each data record and pointers to each data record and wherein the query processing means is arranged to one or more of access the text object index to provide answers to queries relating to the semantic an syntactic information about the data and to access the data to manipulate the data,~~ the text object index includes representative value keys for entries, which give a value representative of a feature of the element associated with the attribute-type identifier for the entry for facilitating matching with other of the free-format data processed in accordance with this system.